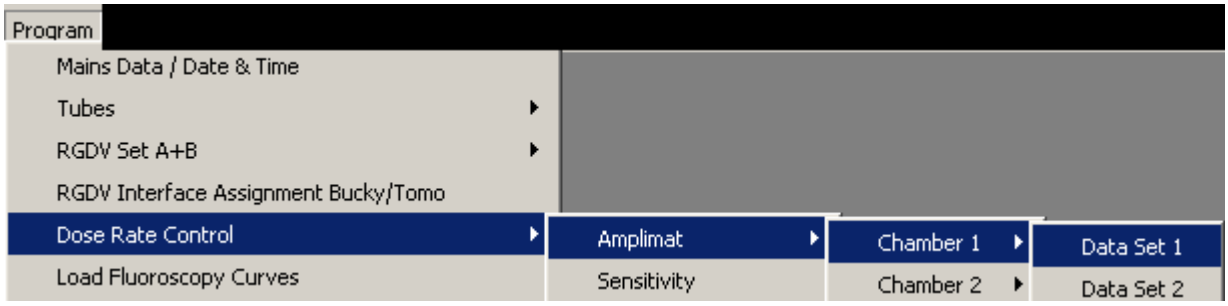
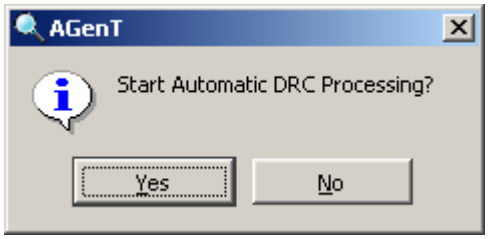
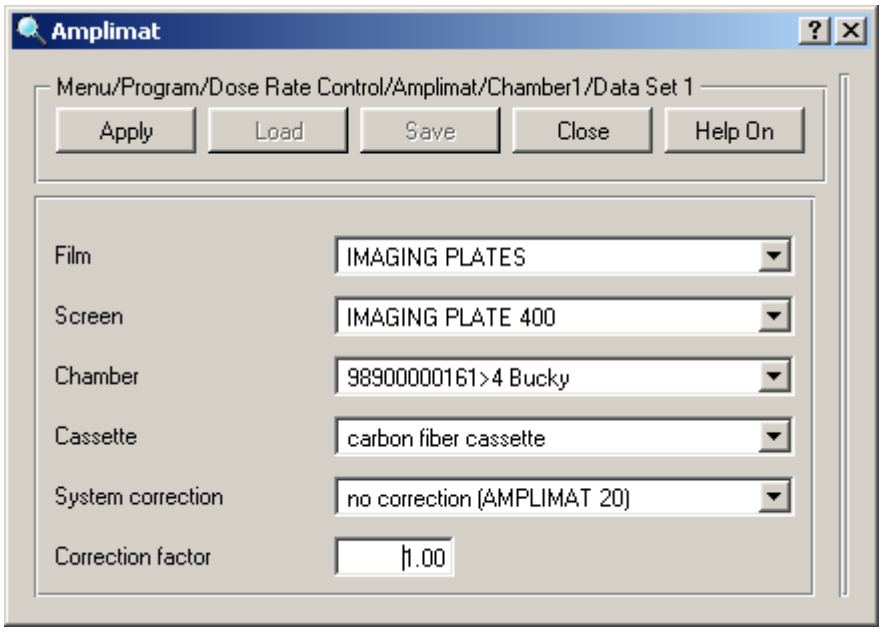
Computed Radiography - Imaging Plates

Dose Rate Control setting Optimus

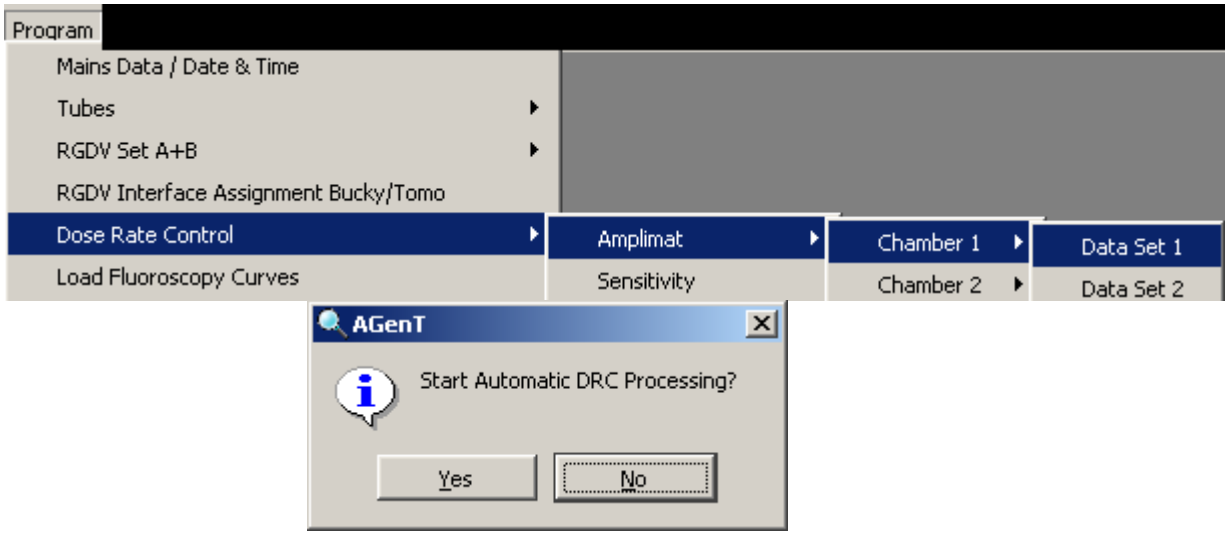
Select:

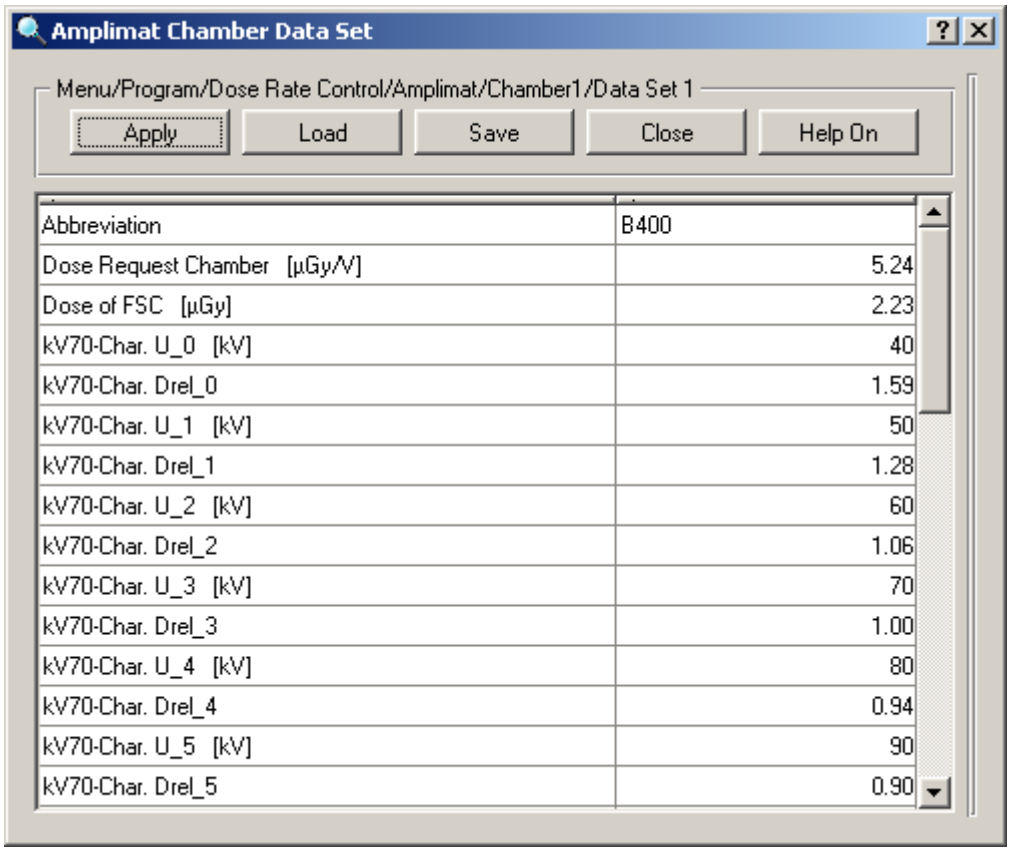






To check and see the result (also if the Abbreviation name shall be changed)





(all other data screens on last page)

Two data fields can be modified, all others **must not** be changed
Remark:

Abbreviation Any name up to six characters can be given. The abbreviation name should indicate the programmed speed type if different speeds shall be used with the same imaging plates.

Dose of FSC [µGy]: Use $\mathbf{K_s}$ explanation this page. The value can be adapted to the local "density taste".

All other data (**kV70-Char.** and **RLF**) **must** remain as they have been calculated during the programming and loading process to obtain the chamber type + imaging plate depending kV characteristic. RLF is constant = 1.

Formula to determine the **speed = S** of a film-screen-combination:

$$S = \frac{K_0}{K_s} = \frac{\mathbf{1000\ \mu Gy}}{\mathbf{Dose\ of\ FSC\ [\mu Gy]:}}$$

>> use speed as >> abbreviation >> name

!! S = speed **must not** be mixed up **!!**
!! with *S = sensitivity PCR* **!!**

K_0 is a constant with a value of 1000 µGy.

K_s is a variable value principally representing a switch off dose to obtain a density of 1.0 above base and fog, (normal films determined by the manufacturer of a film-screen system for defined processing conditions which are different in a computed RAD system). Can be adapted to the local "density taste"

If e.g. K_s = 5 µGy (like the example of the previous page)

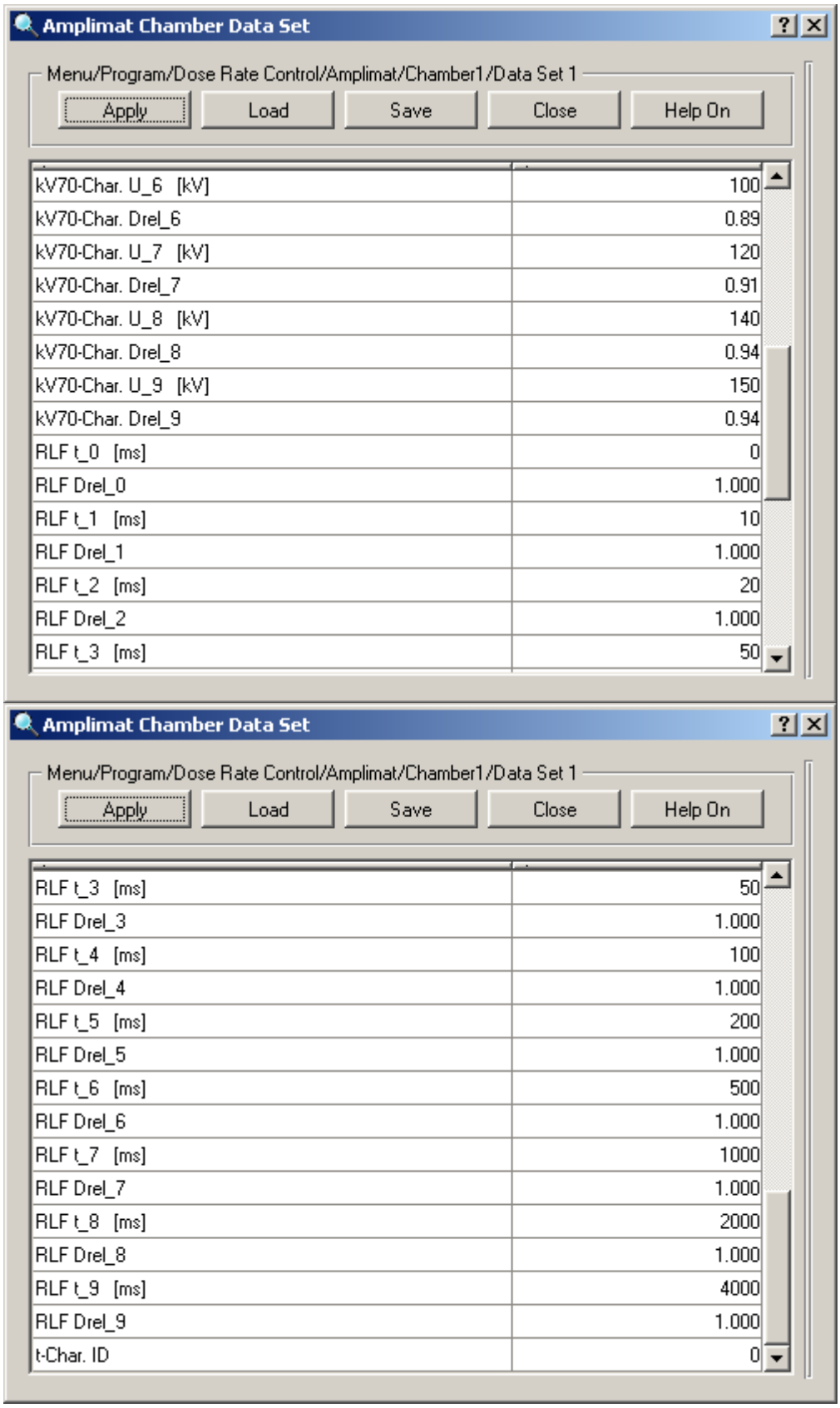
$$S = \frac{1000\ \mu Gy}{5\ \mu Gy} = 200$$

Range of **speed values S** within the standard **speed class SC** systems:

only valid for film-screen-combinations for an optical density of 1.0		
Speed class **SC** Standard	dose / exposure [µGy] Standard class **SC**	Speed value **S** Range
6	167	5 - 9
12	83	10 - 18
25	40	20 - 36
50	20	40 - 71
100	10	80 - 140
200	5	160 - 280
400	2.5	320 - 560
800	1.25	630 – 1100
1600	0.625	1250 – 2200

If different speeds shall be used copy one screen with Save and Load it to any other data set of the same or another chamber.
Change **Abbreviation** names and **Dose of FSC** values accordingly afterwards

More information available in booklet "Radiographic screens and films", manual order No. 4512 984 28351.


Amplimat Chamber Data Set
Menu/Program/Dose Rate Control/Amplimat/Chamber1/Data Set 1
Apply
Load
Save
Close
Help On
kV70-Char. U_6 [kV] 100
kV70-Char. Drel_6 0.89
kV70-Char. U_7 [kV] 120
kV70-Char. Drel_7 0.91
kV70-Char. U_8 [kV] 140
kV70-Char. Drel_8 0.94
kV70-Char. U_9 [kV] 150
kV70-Char. Drel_9 0.94
RLF t_0 [ms] 0
RLF Drel_0 1.000
RLF t_1 [ms] 10
RLF Drel_1 1.000
RLF t_2 [ms] 20
RLF Drel_2 1.000
RLF t_3 [ms] 50
Amplimat Chamber Data Set
Menu/Program/Dose Rate Control/Amplimat/Chamber1/Data Set 1
Apply
Load
Save
Close
Help On
RLF t_3 [ms] 50
RLF Drel_3 1.000
RLF t_4 [ms] 100
RLF Drel_4 1.000
RLF t_5 [ms] 200
RLF Drel_5 1.000
RLF t_6 [ms] 500
RLF Drel_6 1.000
RLF t_7 [ms] 1000
RLF Drel_7 1.000
RLF t_8 [ms] 2000
RLF Drel_8 1.000
RLF t_9 [ms] 4000
RLF Drel_9 1.000
t-Char. ID 0